

## USER GUIDE

# **Broadband Firewall Router with 4-Port Switch/VPN Endpoint**

Model: BEFSX41



# About This Guide

## Icon Descriptions

While reading through the User Guide you may see various icons that call attention to specific items. Below is a description of these icons:



**NOTE:** This check mark indicates that there is a note of interest and is something that you should pay special attention to while using the product.



**WARNING:** This exclamation point indicates that there is a caution or warning and it is something that could damage your property or product.



**WEB:** This globe icon indicates a noteworthy website address or e-mail address.

## Online Resources

Website addresses in this document are listed without **http://** in front of the address because most current web browsers do not require it. If you use an older web browser, you may have to add **http://** in front of the web address.

Resource	Website
Linksys	<a href="http://www.linksys.com">www.linksys.com</a>
Linksys International	<a href="http://www.linksys.com/international">www.linksys.com/international</a>
Glossary	<a href="http://www.linksys.com/glossary">www.linksys.com/glossary</a>
Network Security	<a href="http://www.linksys.com/security">www.linksys.com/security</a>

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## Chapter 1: Product Overview

Thank you for choosing the Linksys by Cisco Broadband Firewall Router with 4-Port Switch/VPN Endpoint. The Router lets you access the Internet through its four switched ports. You can also use the Router to share resources such as computers, printers and files. A variety of security features help to protect your data and your privacy while online. Security features include a Stateful Packet Inspection (SPI) firewall and NAT technology. Configuring the Router is easy using the provided browser-based utility.

### Front Panel



- **Power** (Green) The Power LED lights up and will stay on while the Router is powered on. It flashes when the Router goes through its self-diagnostic mode during every boot-up or upgrades its firmware.
- **DMZ** (Green) This feature lights up when DMZ is enabled.
- **1-4** (Green) These numbered LEDs correspond with the numbered ports on the Router's back panel. These LEDs have a dual function. If the LED is continuously lit, the Router is successfully connected to a device through that port. A flashing LED indicates network activity over that port.
- **Internet** (Green) The Internet LED lights up when there is a connection made through the Internet port. A flashing LED indicates network activity over the Internet port.

### Back Panel



- **Reset** There are two ways to reset the Router to its factory default settings. Use a straightened paper clip or similar object to press and hold the Reset button for approximately five seconds. You can also restore the defaults from the *Administration > Factory Defaults* screen of the Router's web-based utility.
- **Internet** The Internet port is where you will connect your cable or DSL Internet connection.
- **1-4** These Ethernet ports (1, 2, 3, 4) connect the Router to computers on your wired network and other Ethernet network devices.
- **Power** The Power port is where you will connect the power adapter.

## Chapter 2: Advanced Configuration

After setting up the Router with the Setup Wizard (located on the CD-ROM), the Router will be ready for use. However, if you'd like to change its advanced settings, use the Router's web-based utility. This chapter describes each web page of the utility and each page's key functions. You can access the utility via a web browser on a computer connected to the Router.

The web-based utility has these main tabs: Setup, Security, Restrict Access, Applications & Gaming, Administration, and Status. Additional tabs will be available after you click one of the main tabs.

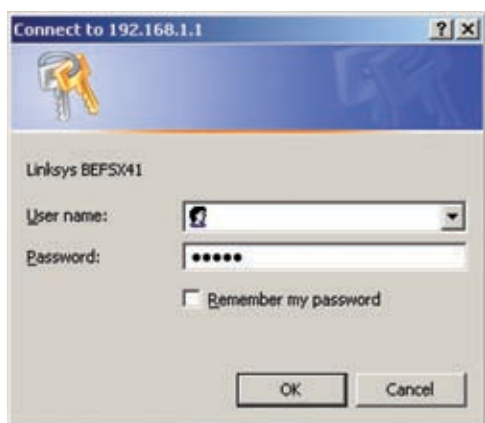


**NOTE:** When first installing the Router, you should use the Setup Wizard on the Setup CD-ROM. If you want to configure advanced settings, use this chapter to learn about the web-based utility.

### How to Access the Web-Based Utility

To access the web-based utility, launch the web browser on your computer, and enter the Router's default IP address, **192.168.1.1**, in the *Address* field. Then, press **Enter**.

A login screen will appear. Leave the *User Name* field blank. The first time you open the web-based utility, use the default password **admin**. (You can set a new password from the *Administration > Management* screen.) Click **OK** to continue.



Login Screen

### Setup > Basic Setup

The first screen that appears is the *Basic Setup* screen. This allows you to change the Router's general settings.



Setup > Basic Setup

### Internet Setup

The Internet Setup section configures the Router to your Internet connection. Most of this information can be obtained through your Internet Service Provider (ISP).

#### Internet Connection Type

Select the type of Internet connection your ISP provides from the drop-down menu. These are the available types:

- Obtain an IP Automatically (DHCP)
- Static IP
- PPPoE
- RAS
- PPTP
- Heart Beat Signal
- L2TP

#### Obtain an IP Automatically

By default, the Router's Internet Connection Type is set to **Obtain an IP automatically**, which should be kept only if your ISP supports DHCP or you are connecting through a dynamic IP address. (This option usually applies to cable connections.)

**Host Name/Domain Name** Enter a Host Name and Domain Name if required by your ISP.

**MTU** The MTU option specifies the largest packet size permitted for network transmission. Select **Enable** if you do not want the Router to regulate this packet size

(otherwise, leave it set at **Disable**) and enter the value desired. You should leave this value in the 1200 to 1500 range. Most DSL users should use the default of **1492**.

The screenshot shows the 'Internet Setup' window. Under 'Internet Connection Type', 'Obtain an IP automatically' is selected. Below, under 'Optional Settings (required by some ISPs)', there are fields for 'Host Name', 'Domain Name', and 'MTU'. The 'MTU' field has radio buttons for 'Enable' and 'Disable' (selected), and a 'Size' field set to '1500'.

Internet Connection Type > Obtain an IP Automatically

### Static IP

If you are required to use a permanent IP address to connect to the Internet, select **Static IP**.

The screenshot shows the 'Internet Setup' window with 'Static IP' selected. It displays fields for 'IP Address', 'Subnet Mask', 'Default Gateway', 'DNS 1', 'DNS 2', and 'DNS 3', each with a numeric keypad. Below these are 'Host Name', 'Domain Name', and 'MTU' settings, with 'Disable' selected for MTU and 'Size' set to '0'.

Internet Connection Type > Static IP

**IP Address** Enter the Router's IP address, as seen from the Internet. This is provided by your ISP.

**Subnet Mask** Enter the Router's subnet mask, as seen by users on the Internet (including your ISP). This is provided by your ISP.

**Default Gateway** Your ISP will provide you with the IP address of the ISP server.

**Primary DNS and Secondary DNS** Your ISP will provide you with at least one DNS (Domain Name System) Server IP Address.

**Host Name/Domain Name** Enter a Host Name and Domain Name if required by your ISP.

**MTU** The MTU option specifies the largest packet size permitted for network transmission. Select **Enable** if you do not want the Router to regulate this packet size (otherwise, leave it set at **Disable**) and enter the value desired. You should leave this value in the 1200 to 1500 range. Most DSL users should use the default of **1492**.

### PPPoE

Some DSL-based ISPs use PPPoE (Point-to-Point Protocol over Ethernet) to establish Internet connections. If you are

connected to the Internet through a DSL line, check with your ISP to see if they use PPPoE. If they do, you will have to enable **PPPoE**.

The screenshot shows the 'Internet Setup' window with 'PPPoE' selected. It includes 'PPPoE Settings' for 'User Name', 'Password', and 'Service Name'. There are also 'Connection' options: 'Connect on Demand (Max Idle: 5 Min.)' and 'Keep Alive: Redial Period: 30 Sec.'. Below are 'Host Name', 'Domain Name', and 'MTU' settings, with 'Disable' selected for MTU and 'Size' set to '0'.

Internet Connection Type > PPPoE

**User Name and Password** Enter the User Name and Password provided by your ISP.

**Service Name** If provided by your ISP, enter the Service Name.

**Connect on Demand: Max Idle Time** You can configure the Router to cut the Internet connection after it has been inactive for a specified period of time (Max Idle Time). If your Internet connection has been terminated due to inactivity, Connect on Demand enables the Router to automatically re-establish your connection as soon as you attempt to access the Internet again. To use this option, select **Connect on Demand**. In the *Max Idle Time* field, enter the number of minutes you want to have elapsed before your Internet connection terminates. The default Max Idle Time is **5** minutes.

**Keep Alive: Redial Period** If you select this option, the Router will periodically check your Internet connection. If you are disconnected, then the Router will automatically re-establish your connection. To use this option, select **Keep Alive**. In the *Redial Period* field, you specify how often you want the Router to check the Internet connection. The default Redial Period is **30** seconds.

**Host Name/Domain Name** Enter a Host Name and Domain Name if required by your ISP.

**MTU** The MTU option specifies the largest packet size permitted for network transmission. Select **Enable** if you do not want the Router to regulate this packet size (otherwise, leave it set at **Disable**) and enter the value desired. You should leave this value in the 1200 to 1500 range. Most DSL users should use the default of **1492**.

When you are finished, click the **Save Settings** button. Then click the **Status** tab, and click the **Connect** button to start the connection.



## RAS

Remote Access Service (RAS) is a service that applies to connections in Singapore only. For users in Singapore, check with Singtel for information on RAS.

Internet Connection Type > RAS

**User Name and Password** Enter the User Name and Password provided by Singtel.

**RAS Plan** Select the type of plan you have.

**Connect on Demand: Max Idle Time** You can configure the Router to cut the Internet connection after it has been inactive for a specified period of time (Max Idle Time). If your Internet connection has been terminated due to inactivity, Connect on Demand enables the Router to automatically re-establish your connection as soon as you attempt to access the Internet again. To use this option, select **Connect on Demand**. In the *Max Idle Time* field, enter the number of minutes you want to have elapsed before your Internet connection terminates. The default Max Idle Time is **5** minutes.

**Keep Alive: Redial Period** If you select this option, the Router will periodically check your Internet connection. If you are disconnected, then the Router will automatically re-establish your connection. To use this option, select **Keep Alive**. In the *Redial Period* field, you specify how often you want the Router to check the Internet connection. The default value is **30** seconds.

**Host Name/Domain Name** Enter a Host Name and Domain Name if required by your ISP.

**MTU** The MTU option specifies the largest packet size permitted for network transmission. Select **Enable** if you do not want the Router to regulate this packet size (otherwise, leave it set at Disable) and enter the value desired. You should leave this value in the 1200 to 1500 range. Most DSL users should use the default of **1492**.

When you are finished, click the **Save Settings** button. Then click the **Status** tab, and click the **Connect** button to start the connection.

## PPTP

Point-to-Point Tunneling Protocol (PPTP) is a service that applies to connections in Europe only.

Internet Connection Type > PPTP

**IP Address** Enter the Router's IP address, as seen from the Internet. This is provided by your ISP.

**Subnet Mask** Enter the Router's subnet mask, as seen by users on the Internet (including your ISP). This is provided by your ISP.

**Default Gateway** Your ISP will provide you with the IP address of the ISP server.

**User Name and Password** Enter the User Name and Password provided by your ISP.

**Connect on Demand: Max Idle Time** You can configure the Router to cut the Internet connection after it has been inactive for a specified period of time (Max Idle Time). If your Internet connection has been terminated due to inactivity, Connect on Demand enables the Router to automatically re-establish your connection as soon as you attempt to access the Internet again. To use this option, select **Connect on Demand**. In the *Max Idle Time* field, enter the number of minutes you want to have elapsed before your Internet connection terminates. The default Max Idle Time is **5** minutes.

**Keep Alive: Redial Period** If you select this option, the Router will periodically check your Internet connection. If you are disconnected, then the Router will automatically re-establish your connection. To use this option, select **Keep Alive**. In the *Redial Period* field, you specify how often you want the Router to check the Internet connection. The default value is **30** seconds.

**Host Name/Domain Name** Enter a Host Name and Domain Name if required by your ISP.

**MTU** The MTU option specifies the largest packet size permitted for network transmission. Select **Enable** if you do not want the Router to regulate this packet size (otherwise, leave it set at Disable) and enter the value

desired. You should leave this value in the 1200 to 1500 range. Most DSL users should use the default of **1492**.

When you are finished, click the **Save Settings** button. Then click the **Status** tab, and click the **Connect** button to start the connection.

### Heart Beat Signal

Heart Beat Signal is a service used in Australia only. If you are using a Heart Beat Signal connection, check with your ISP for the necessary setup information.

The screenshot shows the 'Internet Setup' window with 'Internet Connection Type' set to 'Heart Beat Signal'. The 'Optional Settings (required by some ISPs)' section is expanded, showing fields for 'User Name', 'Password', 'Heart Beat Server' (IP address), 'Connection' (radio buttons for 'Connect on Demand (Max Idle 5 Min.)' and 'Keep Alive: Redial Period 30 Sec.'), 'Host Name', 'Domain Name', and 'MTU' (radio buttons for 'Enable' and 'Disable' with a 'Size' field).

Internet Connection Type > Heart Beat Signal

**User Name and Password** Enter the User Name and Password provided by your ISP.

**Heart Beat Server** Enter the IP address of your ISP's Heart Beat server. This is provided by your ISP.

**Connect on Demand: Max Idle Time** You can configure the Router to cut the Internet connection after it has been inactive for a specified period of time (Max Idle Time). If your Internet connection has been terminated due to inactivity, Connect on Demand enables the Router to automatically re-establish your connection as soon as you attempt to access the Internet again. To use this option, select **Connect on Demand**. In the *Max Idle Time* field, enter the number of minutes you want to have elapsed before your Internet connection terminates. The default Max Idle Time is **5** minutes.

**Keep Alive: Redial Period** If you select this option, the Router will periodically check your Internet connection. If you are disconnected, then the Router will automatically re-establish your connection. To use this option, select **Keep Alive**. In the *Redial Period* field, you specify how often you want the Router to check the Internet connection. The default value is **30** seconds.

**Host Name/Domain Name** Enter a Host Name and Domain Name if required by your ISP.

**MTU** The MTU option specifies the largest packet size permitted for network transmission. Select **Enable** if you do not want the Router to regulate this packet size (otherwise, leave it set at Disable) and enter the value desired. You should leave this value in the 1200 to 1500 range. Most DSL users should use the default of **1492**.

When you are finished, click the **Save Settings** button. Then click the **Status** tab, and click the **Connect** button to start the connection.

### L2TP

L2TP is a service that applies to connections in Israel only.

The screenshot shows the 'Internet Setup' window with 'Internet Connection Type' set to 'L2TP'. The 'Optional Settings (required by some ISPs)' section is expanded, showing fields for 'Server IP Address' (IP address), 'User Name', 'Password', 'Connection' (radio buttons for 'Connect on Demand (Max Idle 5 Min.)' and 'Keep Alive: Redial Period 30 Sec.'), 'Host Name', 'Domain Name', and 'MTU' (radio buttons for 'Enable' and 'Disable' with a 'Size' field).

Internet Connection Type > L2TP

**Server IP Address** Enter the IP address of the L2TP server. This is provided by your ISP.

**User Name and Password** Enter the User Name and Password provided by your ISP.

**Connect on Demand: Max Idle Time** You can configure the Router to cut the Internet connection after it has been inactive for a specified period of time (Max Idle Time). If your Internet connection has been terminated due to inactivity, Connect on Demand enables the Router to automatically re-establish your connection as soon as you attempt to access the Internet again. To use this option, select **Connect on Demand**. In the *Max Idle Time* field, enter the number of minutes you want to have elapsed before your Internet connection terminates. The default Max Idle Time is **5** minutes.

**Keep Alive: Redial Period** If you select this option, the Router will periodically check your Internet connection. If you are disconnected, then the Router will automatically re-establish your connection. To use this option, select **Keep Alive**. In the *Redial Period* field, you specify how often you want the Router to check the Internet connection. The default Redial Period is **30** seconds.

**Host Name/Domain Name** Enter a Host Name and Domain Name if required by your ISP.

**MTU** The MTU option specifies the largest packet size permitted for network transmission. Select **Enable** if you do not want the Router to regulate this packet size (otherwise, leave it set at Disable) and enter the value desired. You should leave this value in the 1200 to 1500 range. Most DSL users should use the default of **1492**.

When you are finished, click the **Save Settings** button. Then click the **Status** tab, and click the **Connect** button to start the connection.



## Network Setup

The Network Setup section changes the settings on the network connected to the Router's Ethernet ports.

**Local IP Address** The default value is **192.168.1.1**.

**Subnet Mask** The default value is **255.255.255.0**.

### Network Address Server Settings (DHCP)

The settings allow you to configure the Router's Dynamic Host Configuration Protocol (DHCP) server function. The Router can be used as a DHCP server for your network. A DHCP server automatically assigns an IP address to each computer on your network. If you choose to enable the Router's DHCP server option, make sure there is no other DHCP server on your network.

Network Address Server Settings (DHCP)

**Local DHCP Server** DHCP is enabled by factory default. If you already have a DHCP server on your network, or you don't want a DHCP server, then select **Disable** (no other DHCP features will be available).

**Start IP Address** Enter a value for the DHCP server to start with when issuing IP addresses. Because the Router's default IP address is 192.168.1.1, the Start IP Address must be 192.168.1.2 or greater, but smaller than 192.168.1.253. The default is **192.168.1.100**.

**Number of Address** Enter the maximum number of computers that you want the DHCP server to assign IP addresses to. This number cannot be greater than 253. The default is **50**.

**DHCP Address Range** Displayed here is the range of available IP addresses.

**Client Lease Time** The Client Lease Time is the amount of time a network user will be allowed connection to the Router with their current dynamic IP address. Enter the amount of time, in minutes, that the user will be "leased" this dynamic IP address. After the time is up, the user will be automatically assigned a new dynamic IP address. The default is **0** minutes, which means one day.

**Time Setting** For an accurate keeping in the Router's logs and functions, select your local time zone from the drop-

down menu. Select **Default NTP Server** or **User-Defined NTP Server**.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes.

## Setup > DDNS

The Router offers a Dynamic Domain Name System (DDNS) feature. DDNS lets you assign a fixed host and domain name to a dynamic Internet IP address. It is useful when you are hosting your own website, FTP server, or other server behind the Router.

Before you can use this feature, you need to sign up for DDNS service with a DDNS service provider, [www.dyndns.org](http://www.dyndns.org) or [www.TZO.com](http://www.TZO.com). If you do not want to use this feature, keep the default setting, **Disabled**.

## DDNS

### DDNS Service

If your DDNS service is provided by DynDNS.org, then select **DynDNS.org** from the drop-down menu. If your DDNS service is provided by TZO, then select **TZO**. The features available on the DDNS screen will vary, depending on which DDNS service provider you use.

#### DynDNS.org

Setup > DDNS > DynDNS.org

**User Name** Enter the User Name for your DDNS account.

**Password** Enter the Password for your DDNS account.

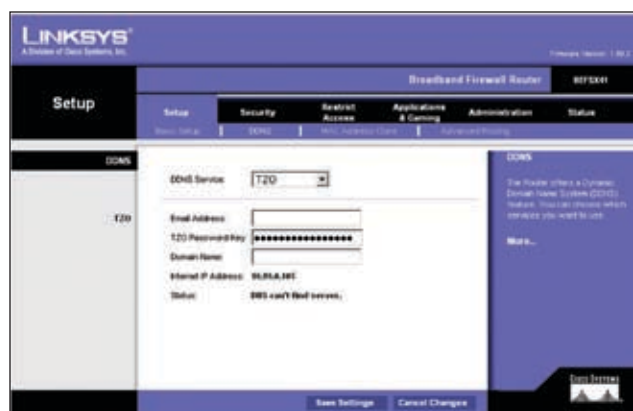
**Host Name** This is the DDNS URL assigned by the DDNS service.

**Internet IP Address** The Router's Internet IP address is displayed here. Because it is dynamic, it will change.

**Status** The status of the DDNS service connection is displayed here.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes.

TZO.com



Setup > DDNS > TZO

**E-mail Address, TZO Password Key, and Domain Name** Enter the settings of the account you set up with TZO.

**Internet IP Address** The Router's Internet IP address is displayed here. Because it is dynamic, it will change.

**Status** The status of the DDNS service connection is displayed here.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes.

## Setup > MAC Address Clone

A MAC address is a 12-digit code assigned to a unique piece of hardware for identification. Some ISPs will require you to register a MAC address in order to access the Internet. If you do not wish to re-register the MAC address with your ISP, you may assign the MAC address you have currently registered with your ISP to the Router with the MAC Address Clone feature.



Setup > MAC Address Clone

## MAC Clone

**MAC Clone Service** To have the MAC address cloned, select **Enable**.

**MAC Address** Enter the MAC address registered with your ISP here.

**Clone** Click this button to clone the MAC address of the computer you are using.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes.

## Setup > Advanced Routing

This screen is used to set up the Router's advanced functions. Dynamic Routing automatically adjusts how packets travel on your network. Static Routing sets up a fixed route to another network destination.



Setup > Advanced Routing

## Advanced Routing

### NAT

**Enable/Disable** If this Router is hosting your network's connection to the Internet, keep the default, **Enable**. If another router exists on your network, select **Disable**. When the NAT setting is disabled, the Dynamic Routing feature can be enabled.

### Dynamic Routing (RIP)

**Enable/Disable** This feature enables the Router to automatically adjust to physical changes in the network's layout and exchange routing tables with the other router(s). The Router determines the network packets' route based on the fewest number of hops between the source and the destination. When the NAT setting is enabled, the Dynamic Routing feature is automatically disabled. When the NAT setting is disabled, this feature is available. Select **Enable** to use the Dynamic Routing feature.

**Transmit RIP Version** To use dynamic routing for transmission of network data, select the protocol you want: **RIP1**, **RIP1-Compatible**, or **RIP2**.

**Receive RIP Version** To use dynamic routing for reception of network data, select the protocol you want, **RIP1** or **RIP2**.

## Static Routing

A static route is a pre-determined pathway that network information must travel to reach a specific host or network. Enter the information described below to set up a new static route.

**Select Entry** To set up a static route between the Router and another network, select a number from the drop-down list. Click **Delete Entry** to delete a static route.

**Destination IP Address** Enter the IP address of the remote network or host to which you want to assign a static route.

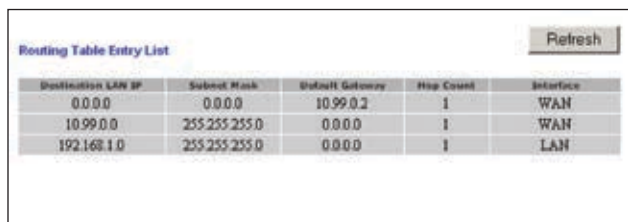
**Subnet Mask** Enter the subnet mask. This determines which portion of a Destination IP Address is the network portion, and which portion is the host portion.

**Gateway** Enter the IP address of the gateway device that allows for contact between the Router and the remote network or host.

**Hop Count** Enter the maximum number of steps between network nodes that data packets will travel. A node is any device on the network, such as a computer, print server, or router.

**Interface** Select the appropriate interface. This tells you whether the Destination IP Address is on the **LAN** (Local Area Network) or the **Internet**.

Click **Show Routing Table** to view the static routes you have already set up.



Destination LAN IP	Subnet Mask	Default Gateway	Hop Count	Interface
0.0.0.0	0.0.0.0	10.99.0.2	1	WAN
10.99.0.0	255.255.255.0	0.0.0.0	1	WAN
192.168.1.0	255.255.255.0	0.0.0.0	1	LAN

Advanced Routing > Routing Table

## Routing Table

For each route, the Destination LAN IP address, Subnet Mask, Gateway, Hop Count, and Interface are displayed. Click **Refresh** to update the information.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes.

## Security > Firewall

The *Firewall* screen allows you to enable or disable the firewall, which shields your network from outside users, and manage different filters, which provide additional protection. Filters block specific internal users from accessing the Internet and block anonymous Internet requests and/or multicasting.



Security > Firewall

## Additional Filters

This area allows you to block, or filter, certain Internet applications from your network. Click the box next to those applications you wish to filter.

**Firewall Protection** To add Firewall Protection, click **Enabled**. If you do not want Firewall Protection, click **Disabled**.

**Filter Proxy** Use of WAN proxy servers may compromise the Router's security. Denying Filter Proxy will disable access to any WAN proxy servers. To enable proxy filtering, click **Enabled**.

**Filter Cookies** A cookie is data stored on your PC and used by Internet sites when you interact with them. To enable cookie filtering, click **Enabled**.

**Filter Java Applets** Java is a programming language for websites. If you deny Java Applets, you run the risk of not having access to Internet sites created using this programming language. To enable Java Applet filtering, click **Enabled**.

**Filter ActiveX** ActiveX is a programming language for websites. If you deny ActiveX, you run the risk of not having access to Internet sites created using this programming language. To enable ActiveX filtering, click **Enabled**.

Use these features to enhance your network's security and filter multicasting.

## Block WAN Requests

**Block Anonymous Internet Requests** This feature makes it more difficult for outside users to work their way into your network. This feature is enabled by default. Select **Disabled** to allow anonymous Internet requests.

**Filter Multicast** Multicasting allows for multiple transmissions to specific recipients at the same time. If multicasting is permitted, then the Router will allow IP multicast packets to be forwarded to the appropriate

computers. Select **Enabled** to filter multicasting. This feature is disabled by default.

**Filter Internet NAT Redirection** This feature uses port forwarding to block access to local servers from local networked computers. Select **Enabled** to filter Internet NAT redirection. This feature is disabled by default.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes.

## Security > VPN

The *VPN* screen allows you to enable VPN tunnels.



Security > VPN

### VPN Passthrough

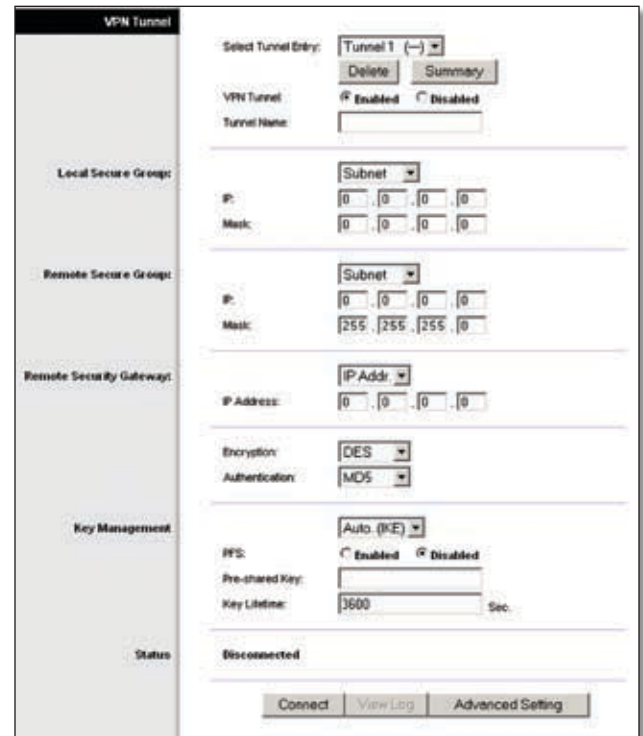
**IPSec Passthrough** Internet Protocol Security (IPSec) is a suite of protocols used to implement secure exchange of packets at the IP layer. To allow IPSec tunnels to pass through the Router, keep the default, **Enabled**.

**PPPoE Passthrough** Point-to-Point over Ethernet (PPPoE) Passthrough allows your computer(s) to use the PPPoE client software provided by your ISP. Some ISPs may request that you use this feature on the Router. To allow PPPoE Passthrough, keep the default, **Enabled**.

**PPTP Passthrough** Point-to-Point Tunneling Protocol (PPTP) allows the Point-to-Point Protocol (PPP) to be tunneled through an IP network. To allow PPTP tunnels to pass through the Router, keep the default, **Enabled**.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes.

### VPN Tunnel



Security > VPN Tunnel

### Establishing a Tunnel

The Router creates a tunnel or channel between two endpoints, so that the data or information between these endpoints is secure. To establish this tunnel, select the tunnel you wish to create in the *Select Tunnel Entry* drop-down box. It is possible to create up to two simultaneous tunnels. To delete a tunnel, click the **Delete** button. To view a summary of that tunnel, click the **Summary** button.

Then check the box next to **Enable** to enable the tunnel.

Once the tunnel is enabled, enter the name of the tunnel in the *Tunnel Name* field. This is to allow you to identify multiple tunnels and does not have to match the name used at the other end of the tunnel.

### Local Secure Group and Remote Secure Group

A Local Secure Group is a computer(s) on your network that can access the tunnel. A Remote Secure Group is a computer(s) on the remote end of the tunnel that can access the tunnel. Under Local Secure Group and Remote Secure Group, you may choose one of three options: **Subnet**, **IP Address**, and **IP Range**. Under Remote Secure Group, you have two additional options: **Host** and **Any**.

**Subnet** If you select **Subnet** (which is also the default), this will allow all computers on the local subnet to access the tunnel. When using the Subnet setting, the default values of **0** should remain in the last fields of the IP and Mask settings.



**IP Address** If you select **IP Address**, only the computer with the specific IP Address that you enter will be able to access the tunnel.

**IP Range** If you select **IP Range**, it will be a combination of Subnet and IP Address. You can specify a range of IP Addresses within the Subnet which will have access to the tunnel.

The next two options are for Remote Secure Groups only.

**Host** If you select **Host** for the Remote Secure Group, then the Remote Secure Group will be the same as the Remote Security Gateway setting: IP Address, FQDN (Fully Qualified Domain Name), or Any.

**Any** If you select **Any** for the Remote Security Group, the local VPN Router will accept a request from any IP address. This setting should be chosen when the other endpoint is using DHCP or PPPoE on the Internet side.

### Remote Security Gateway

The Remote Security Gateway is the VPN device, such as a second VPN Router, on the remote end of the VPN tunnel. Under Remote Security Gateway, you have three options: **IP Address**, **FQDN**, and **Any**. In this section, you can also set the levels and types of encryption and authentication.

**IP Address** If you select **IP Address**, enter the IP Address of the VPN device at the other end of the tunnel. The remote VPN device can be another VPN Router, a VPN Server, or a computer with VPN client software that supports IPSec. The IP Address may either be static (permanent) or dynamic (changing), depending on the settings of the remote VPN device. Make sure that you have entered the IP Address correctly, or the connection cannot be made. Remember, this is NOT the IP Address of the local VPN Router, but the IP Address of the remote VPN Router or device with which you wish to communicate.

**FQDN (Fully Qualified Domain Name)** If you select **FQDN**, enter the FQDN of the VPN device at the other end of the tunnel. The remote VPN device can be another VPN Router, a VPN Server, or a computer with VPN client software that supports IPSec. The FQDN is the host name and domain name for a specific computer on the Internet, for example, vpn.myvpnserver.com.

**Any** If you select **Any** for the Remote Security Gateway, the VPN device at the other end of the tunnel will accept a request from any IP address. The remote VPN device can be another VPN Router, a VPN Server, or a computer with VPN client software that supports IPSec. If the remote user has an unknown or dynamic IP address (such as a professional on the road or a telecommuter using DHCP or PPPoE), then Any should be selected.

**Encryption** Using Encryption also helps make your connection more secure. There are two different types of encryption: **DES** or **3DES** (3DES is recommended because it is more secure). You may choose either of these, but it

must be the same type of encryption that is being used by the VPN device at the other end of the tunnel. Or, you may choose not to encrypt by selecting **Disable**.

**Authentication** Authentication acts as another level of security. There are two types of authentication: **MD5** and **SHA** (SHA is recommended because it is more secure). As with encryption, either of these may be selected, provided that the VPN device at the other end of the tunnel is using the same type of authentication. Or, both ends of the tunnel may choose to Disable authentication.

### Key Management

In order for any encryption to occur, the two ends of the tunnel must agree on the type of encryption and the way the data will be decrypted. This is done by sharing a “key” to the encryption code. Under *Key Management*, you may choose automatic or manual key management.

**Automatic Key Management** Select **Auto** (IKE) and enter a series of numbers or letters in the *Pre-shared Key* field. Check the box next to **PFS** (Perfect Forward Secrecy) to ensure that the initial key exchange and IKE proposals are secure. Based on this word, which MUST be entered at both ends of the tunnel if this method is used, a key is generated to scramble (encrypt) the data being transmitted over the tunnel, where it is unscrambled (decrypted). You may use any combination of up to 24 numbers or letters in this field. No special characters or spaces are allowed. In the *Key Lifetime* field, you may optionally select to have the key expire at the end of a time period of your choosing. Enter the number of seconds you’d like the key to be useful, or leave it blank for the key to last indefinitely.

**Manual Key Management** Similarly, you may choose Manual keying, which allows you to generate the key yourself. Enter your key into the *Encryption KEY* field. Then enter an Authentication KEY into that field. These fields must both match the information that is being entered in the fields at the other end of the tunnel. Up to 24 alphanumeric characters are allowed to create the Encryption Key. Up to 20 alphanumeric characters are allowed to create the Authentication Key.

The *Inbound SPI* and *Outbound SPI* fields are different, however. The Inbound SPI value set here must match the Outbound SPI value at the other end of the tunnel. The Outbound SPI here must match the Inbound SPI value at the other end of the tunnel. That is, the Inbound SPI and Outbound SPI values would be opposite on the other end of the tunnel. Only numbers can be used in these fields. After you click the **Save Settings** button, hexadecimal characters (series of letters and numbers) are displayed in the *Inbound SPI* and *Outbound SPI* fields.

The *Status* field at the bottom of the screen will show when a tunnel is active.

To connect a VPN tunnel, click the **Connect** button. The **View Logs** button, when logging is enabled on the



Log screen of the *Administration* tab, will show you VPN activity on a separate screen. The *VPN Log* screen displays successful connections, transmissions and receptions, and the types of encryption used. For more advanced VPN options, click the **Advanced Setting** button to open the *Advanced Setting* screen.

When finished making your changes on this screen, click the **Save Settings** button to save these changes, or click the **Cancel Changes** button to undo your changes.

### Advanced VPN Tunnel Setup

From the *Advanced Settings* screen you can adjust the settings for specific VPN tunnels.

#### Phase 1

Phase 1 is used to create a security association (SA), often called the IKE SA. After Phase 1 is completed, Phase 2 is used to create one or more IPSec SAs, which are then used to key IPSec sessions.

**Operation Mode** There are two modes: Main and Aggressive, and they exchange the same IKE payloads in different sequences. Main mode is more common; however, some people prefer Aggressive mode because it is faster. Main mode is for normal usage and includes more authentication requirements than Aggressive mode. Main mode is recommended because it is more secure. No matter which mode is selected, the VPN Router will accept both Main and Aggressive requests from the remote VPN device. If a user on one side of the tunnel is using a Unique Firewall Identifier, this should be entered under the *Username* field.

**Encryption** Select the length of the key used to encrypt/decrypt ESP packets. There are two choices: **DES** and **3DES**. 3DES is recommended because it is more secure.

**Authentication** Select the method used to authenticate ESP packets. There are two choices: **MD5** and **SHA**. SHA is recommended because it is more secure.

**Group** There are two Diffie-Hellman Groups to choose from: 768-Bit and 1024-Bit. Diffie-Hellman refers to a cryptographic technique that uses public and private keys for encryption and decryption.

**Key Lifetime** In the *Key Lifetime* field, you may optionally select to have the key expire at the end of a time period of your choosing. Enter the number of seconds you'd like the key to be used until a re-key negotiation between each endpoint is completed.

#### Phase 2

**Group** There are two Diffie-Hellman Groups to choose from: 768-Bit and 1024-Bit. Diffie-Hellman refers to a cryptographic technique that uses public and private keys for encryption and decryption.

**Key Lifetime** In the *Key Lifetime* field, you may optionally select to have the key expire at the end of a time period of your choosing. Enter the number of seconds you'd like the key to be used until a re-key negotiation between each endpoint is completed.

#### Other Settings

**NetBIOS broadcast** Check the box next to NetBIOS broadcast to enable NetBIOS traffic to pass through the VPN tunnel.

**Anti-replay** Check the box next to Anti-replay to enable the Anti-replay protection. This feature keeps track of sequence numbers as packets arrive, ensuring security at the IP packet-level.

**Keep-Alive** Check the box next to Keep-Alive to re-establish the VPN tunnel connection whenever it is dropped. Once the tunnel is initialized, this feature will keep the tunnel connected for the specified amount of idle time.

**Unauthorized IP Blocking** Check this box to block unauthorized IP addresses. Complete the on-screen sentence to specify how many times IKE must fail before blocking that unauthorized IP address for a length of time that you specify (in seconds).

When finished making your changes on this screen, click the **Save Settings** button to save these changes, or click the **Cancel Changes** button to undo your changes.

### Restrict Access

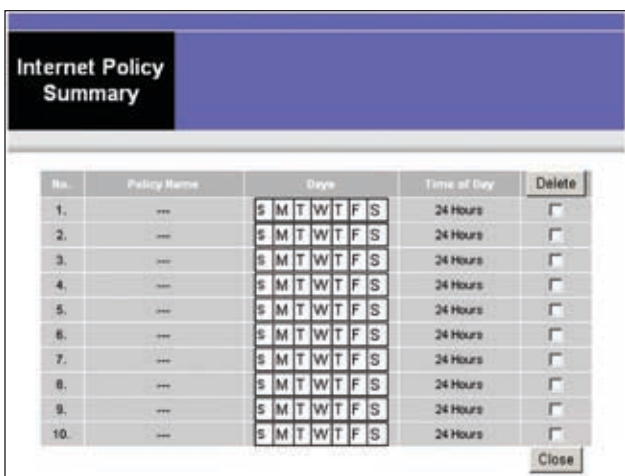
The Restrict Access tab allows you to block or allow network access as well as manage specific kinds of Internet usage.

## Internet Access



Restrict Access > Internet Access

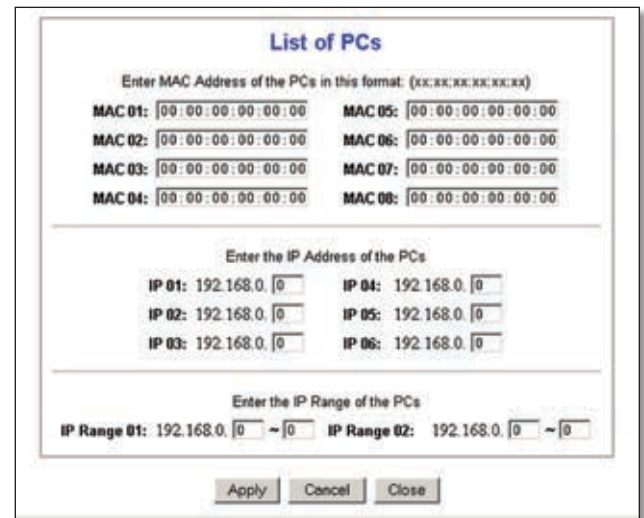
**Internet Access Policy** Access is managed by a policy. An access policy is established with the settings on this screen (after **Save Settings** is clicked). Selecting a policy from the drop-down menu will display that policy's settings on this screen. To delete a policy, select that policy's number and click the **Delete** button. To view the policies established, click the **Summary** button (policies can be deleted from the summary screen by selecting the policy or policies and clicking the **Delete** button).



Restrict Access > Internet Policy Summary

**Enter Policy Name** Each policy can be named, using no more than 30 characters, so you can remember what it's for.

**PCs** Click the **Edit List** button to select which PCs will be affected by the policy. You can enter the PC by MAC Address or IP Address. You can also enter a range of IP Addresses if you wish this policy to affect a group of PCs. After making your changes, click the **Save Settings** button to apply your changes or **Cancel Changes** to cancel your changes.



**Days/Times** When will this policy be in effect? On every day? At certain times? Select if you wish to **Allow** or **Deny** access during the times in this section. Select the individual days or select **Everyday**. Select **24 Hours** or enter a range of hours in which the policy will be in effect.

**Blocked Services** To block specific port services, such as POP3, SNMP, etc., select the service you wish to block from the pull-down menu and enter a range of ports in the fields beside it. If the service is not listed, you can add or even edit a service by clicking the **Add/Edit Service** button.

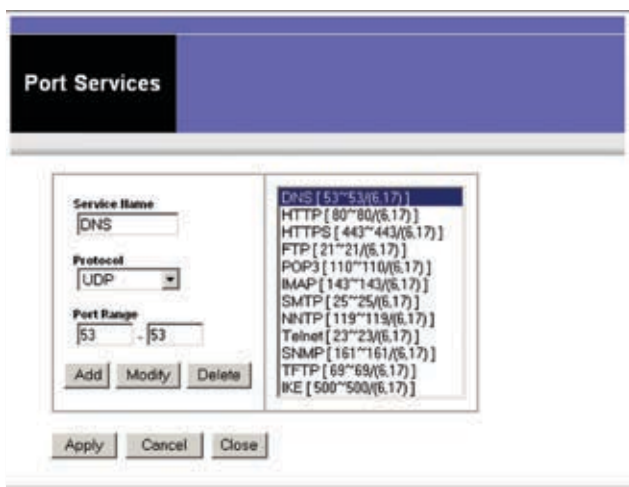
**Website Blocking by URL Address** Enter the URL of any website you wish to block in these fields.

**Website Blocking by Keyword** If you don't know the address of the website you wish to block, you can enter keywords specific to the site in these fields. The Router will block access to sites that use those keywords.

### To Create an Internet Access Policy:

1. Enter a Policy Name in the field provided. Select **Internet Access** as the Policy Type. Click the **Edit List** button. This will open the *List of PCs* screen. From this screen, you can enter the IP address or MAC address of any PC to which this policy will apply. You can even enter ranges of PCs by IP address. Click the **Apply** button to save your settings, the **Cancel** button to undo any changes, and the **Close** button to return to the **Filters** tab.

- If you wish to deny or allow Internet access for those PCs you listed on the *List of PCs* screen, click the option.
- You can filter access to various services accessed over the Internet, such as FTP or Telnet, by selecting a service from the drop-down menus next to Blocked Services. If a service isn't listed, you can click the **Service** button to open the *Service* screen and add a service to the list. You will need to enter a Service name, as well as the Protocol and Port Range used by the service.
- By selecting the appropriate setting next to Days and Time, choose when Internet access will be filtered.
- Lastly, click the **Save Settings** button to activate the policy.



Restrict Access &gt; Port Services

### To Create an Inbound Traffic Policy

- Enter a Policy Name in the field provided. Select **Inbound Traffic** as the Policy Type.
- Enter the IP Address from which you want to block. Select the Protocol: **TCP**, **UDP**, or **Both**. Enter the port number or select **Any**. Enter the IP Address to which you want to block.
- Select **Deny** or **Allow** as appropriate.
- By selecting the appropriate setting next to Days and Time, choose when the Inbound Traffic will be filtered.
- Lastly, click the **Save Settings** button to activate the policy.

When finished making your changes on this tab, click the **Save Settings** button to save these changes, or click the **Cancel Changes** button to undo your changes.

Internet Access can be filtered by URL Address, by entering the address in a *Website Blocking by URL Address* field, or by entering a keyword in one of the *Website Blocking by Keyword* fields.

## Applications & Gaming > Port Range Forwarding

The *Port Range Forwarding* screen allows you to set up public services on your network, such as web servers, ftp servers, e-mail servers, or other specialized Internet applications. (Specialized Internet applications are any applications that use Internet access to perform functions such as videoconferencing or online gaming. Some Internet applications may not require any forwarding.)

When users send these types of requests to your network via the Internet, the Router will forward those requests to the appropriate servers (computers). Before using forwarding, you should assign static IP addresses to the designated servers.

If you need to forward all ports to one computer, click the **DMZ** tab.



Applications and Gaming &gt; Port Range Forwarding

### Port Range Forwarding

To forward a port, enter the information on each line for the criteria required.

**Application** In this field, enter the name you wish to give the application. Each name can be up to 12 characters.

**Start and End** Enter the number or range of port(s) used by the server or Internet applications. Check with the Internet application documentation for more information.

**Protocol** Select the protocol used for this application, either **TCP** or **UDP**, or **Both**.

**IP Address** For each application, enter the IP address of the PC running the specific application.

**Enabled** Select **Enabled** to enable port forwarding for the applications you have defined.



Click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes.

## Applications & Gaming > Port Triggering

The *Port Triggering* screen allows the Router to watch outgoing data for specific port numbers. The IP address of the computer that sends the matching data is remembered by the Router, so that when the requested data returns through the Router, the data is pulled back to the proper computer by way of IP address and port mapping rules.



Applications and Gaming > Port Triggering

## Port Triggering

**Application** Enter the application name of the trigger.

### Triggered Range

**Start Port and End Port** For each application, enter the starting and ending port numbers of the triggered port number range. Check with the Internet application documentation for the port number(s) needed.

### Forwarded Range

**Start Port and End Port** For each application, enter the starting and ending port numbers of the forwarded port number range. Check with the Internet application documentation for the port number(s) needed.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes.

## Applications & Gaming > UPnP Forwarding

The *UPnP Forwarding* screen displays preset application settings as well as options to customize port services for other applications.



Applications and Gaming > UPnP Forwarding

## UPnP Forwarding

### Application

Ten applications are preset. For custom applications, enter the name of your application in one of the available fields.

The preset applications are among the most widely used Internet applications. They include the following:

**FTP (File Transfer Protocol)** A protocol used to transfer files over a TCP/IP network (Internet, UNIX, etc.). For example, after developing the HTML pages for a website on a local machine, they are typically uploaded to the web server using FTP.

**Telnet** A terminal emulation protocol commonly used on Internet and TCP/IP-based networks. It allows a user at a terminal or computer to log onto a remote device and run a program.

**SMTP (Simple Mail Transfer Protocol)** The standard e-mail protocol on the Internet. It is a TCP/IP protocol that defines the message format and the message transfer agent (MTA), which stores and forwards the mail.

**DNS (Domain Name System)** The way that Internet domain names are located and translated into IP addresses. A domain name is a meaningful and easy-to-remember "handle" for an Internet address.

**TFTP (Trivial File Transfer Protocol)** A version of the TCP/IP FTP protocol that has no directory or password capability.

**Finger** A UNIX command used on the Internet to find out information about a particular user, such as a telephone number, whether the user is currently logged on, and the last time the user was logged on. The person being

“fingered” must have placed his or her profile on the system in order for the information to be available. Fingering requires entering the full user@domain address.

**HTTP (HyperText Transport Protocol)** The communications protocol used to connect to servers on the World Wide Web. Its primary function is to establish a connection with a web server and transmit HTML pages to the client web browser.

**POP3 (Post Office Protocol 3)** A standard mail server commonly used on the Internet. It provides a message store that holds incoming e-mail until users log on and download it. POP3 is a simple system with little selectivity. All pending messages and attachments are downloaded at the same time. POP3 uses the SMTP messaging protocol.

**NNTP (Network News Transfer Protocol)** The protocol used to connect to Usenet groups on the Internet. Usenet newsreaders support the NNTP protocol.

**SNMP (Simple Network Management Protocol)** A widely used network monitoring and control protocol. Data is passed from SNMP agents, which are hardware and/or software processes reporting activity in each network device (hub, router, bridge, etc.), to the workstation console used to oversee the network. The agents return information contained in a MIB (Management Information Base), which is a data structure that defines what is obtainable from the device and what can be controlled (turned off, on, etc.).

**Ext. Port.** Enter the number of the external port used by the server in the Ext. Port column. Check with the Internet application documentation for more information.

**TCP or UDP** Select the protocol **UDP** or **TCP** for each application. You cannot select both protocols.

**Int. Port** Enter the number of the internal port used by the server in the Int. Port column. Check with the Internet application software documentation for more information.

**IP Address** Enter the IP address of the server that you want the Internet users to be able to access.

**Enabled** Select **Enabled** to enable the service you have defined.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes.

## Applications & Gaming > DMZ

The DMZ feature allows one network computer to be exposed to the Internet for use of a special-purpose service such as Internet gaming or videoconferencing. DMZ hosting forwards all the ports at the same time to one PC. The Port Range Forwarding feature is more secure because it only opens the ports you want to have opened, while DMZ hosting opens all the ports of one computer, exposing the computer to the Internet.



Applications and Gaming > DMZ

## DMZ

Any PC whose port is being forwarded must have its DHCP client function disabled and should have a new static IP address assigned to it because its IP address may change when using the DHCP function.

**DMZ Port** To disable DMZ hosting, keep the default, **Disable**. To expose one PC, select **Enable**. Then configure the following setting:

### DMZ Host Address

**Assigned by the DMZ Port** The DMZ host is the first PC connected to Port 4/DMZ of the Router, either directly or through a hub or switch. The Router will only allow one PC to be the DMZ host.

**Specify an IP Address behind the DMZ Port** If you have multiple PCs connected to Port 4/DMZ via a hub or switch, you can specify which PC is the DMZ host. To expose a computer with a specific IP address, enter that computer's IP address in this field.

**Specify a MAC Address behind the DMZ Port** If you have multiple PCs connected to Port 4/DMZ via a hub or switch, you can specify which PC is the DMZ host. To expose a PC with a specific MAC address, enter that computer's MAC address in this field."

**Current DMZ Host** The IP address of the current DMZ host is displayed here.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes.

## Administration > Management

The *Management* screen allows the network's administrator to manage specific Router functions for access and security.





Administration &gt; Management

## Router Access

### Local Router Access

To ensure the Router's security, you will be asked for your password when you access the Router's web-based utility. The default is **admin**.

**Router Password** Enter a new password for the Router.

**Re-enter to confirm** Enter the password again to confirm.

### Remote Router Access

**Remote Upgrade** If you want to be able to upgrade the Router remotely, from outside the local network, select **Enabled**. (You must have the Remote Administration feature enabled as well.) Otherwise, keep the default, **Disabled**.

**Remote Administration** To permit remote access of the Router, from outside the local network, select **Enabled**. Otherwise, keep the default, **Disabled**.

**Administration Port** Enter the port number that will be open to outside access.



**NOTE:** When you are in a remote location and wish to manage the Router, enter **http://<Internet\_IP\_address>:port**, depending on whether you use HTTP or HTTPS. Enter the Router's specific Internet IP address in place of <Internet\_IP\_address>, and enter the Administration Port number in place of the word port.

## SNMP

The Router supports Simple Network Management Protocol (SNMP), which is a widely used network monitoring and control protocol. This allows network supervisors to monitor the Router using network management systems such as HP OpenView.

**Enabled/Disabled** To use SNMP, select **Enabled**. If you do not want to use SNMP, keep the default, **Disabled**.

**Get Community** Enter the password that allows read-only access to the Router's SNMP information.

**Set Community** Enter the password that allows read/write access to the Router's SNMP information.

## UPnP

Universal Plug and Play (UPnP) allows Windows XP or Vista to automatically configure the Router for various Internet applications, such as gaming and videoconferencing.

**UPnP** If you want to use UPnP, keep the default setting, **Enabled**. Otherwise, select **Disabled**.

**Allow Users to Make Configuration Changes** Keep the default, **Enabled**, if you want to be able to make manual changes to the Router while using the UPnP feature. Otherwise, select **Disabled**.

**Allow Users to Disable Internet Access** Keep the default, **Enabled**, if you want to be able to prohibit any and all Internet connections. Otherwise, select **Disabled**.

Click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes.

## Administration > Log

The Router can keep logs of all traffic for your Internet connection.



Administration &gt; Log

## Log

The *Log* screen provides you with options for email alerts and a log of all incoming and outgoing URLs or IP addresses for your Internet connection.

**Email alerts** To enable the Router to send email alerts in the event of Denial of Service attacks and the like, click the radio button beside **Enable**. If you do not wish to have email alerts, click the radio button beside **Disable**.

**Denial of Service Thresholds** This limit, from 20 to 100, is the amount of Denial of Service (DOS) attacks the Router detects before sending an email alert.

**SMTP Mail Server** This is the IP Address or full mail server name (e.g. mail.domain.com) of your mail server.

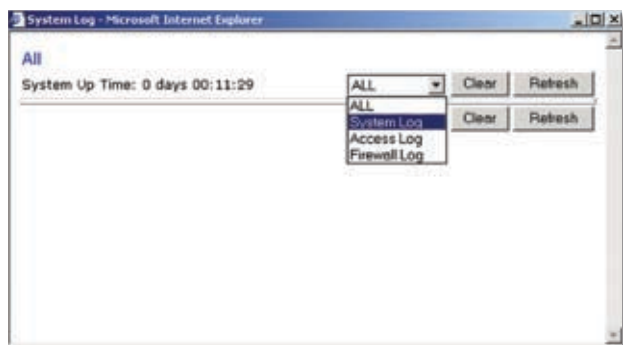
**Email address for alert logs** This is the email address where you would like the email alerts sent.

**Return email address** Your mail server may require a return email address. Enter that here. If you're unsure as to what address to enter, enter the same email address for Email address for alert logs.

**Log** To disable the Log function, keep the default setting, **No**. To monitor traffic between the network and the Internet, select **Yes**. With logging enabled, you can choose to view temporary logs or keep a permanent record using the Logviewer software.

**Logviewer IP Address** For a permanent record of these logs, the Logviewer software must be used. Download this software from the Linksys website, [www.linksys.com](http://www.linksys.com). The Logviewer software saves all incoming and outgoing activity in a permanent file on your computer's hard drive. Enter the fixed IP address of the computer running the Logviewer software. The Router will now send updated logs to that computer.

On the *All* screen, select the log you wish to view: **All**, **System Log**, or **Access Log**.



Log > View Log

Click **Save Settings** to apply your changes, or click **Cancel Changes** to cancel your changes.

## Administration > Diagnostics

Diagnostics allow you to check the connections of your network components as well as locations outside your network via the Internet.



**Ping Target IP** This is the IP Address of the PC or network component, or location outside of your network, that you wish to test.

**Ping Size** Enter the amount of data, measured in bytes, sent in the ping test here. This number can be between 60 and 1514 bytes, more data being sent with a higher number.

**No. of Pings** How many times in this test do you want the Router to ping the location? This number can be between 1 and 4 and should be entered here.

**Ping Interval** How long, in milliseconds, would you like the Router to wait between pings? This number can be between 0 and 9999 milliseconds.

**Ping Timeout** How long should the Router wait before it times out after an unsuccessful test? An unsuccessful test is determined when a location does not respond to a ping. This number can be between 0 and 9999 milliseconds.

**Start Test** Click the **Start Test** button to begin the diagnostic tests.

The results of the test will be listed below the **Start Test** button.

When you are finished running your tests, click the **Save Settings** button to save these settings for future tests, or click the **Cancel Changes** button to return the settings to their previous state.

## Administration > Factory Defaults

The *Administration > Factory Defaults* screen allows you to restore the Router's configuration to its factory default settings.



Administration &gt; Factory Defaults



**NOTE:** Do not restore the factory defaults unless you are having difficulties with the Router and have exhausted all other troubleshooting measures. Once the Router is reset, you will have to re-enter all of your configuration settings.

## Factory Defaults

**Restore Factory Defaults** To reset the Router's settings to the default values, select **Yes** and click **Save Settings**. Then follow the on-screen instructions. Any settings you have saved will be lost when the default settings are restored.

## Administration > Firmware Upgrade

The *Firmware Upgrade* screen allows you to upgrade the Router's firmware. Do not upgrade the firmware unless you are experiencing problems with the Router or the new firmware has a feature you want to use.



Administration &gt; Firmware Upgrade



**NOTE:** The Router may lose the settings you have customized. Before you upgrade its firmware, write down all of your custom settings. After you upgrade its firmware, you will have to re-enter all of your configuration settings.

## Upgrade Firmware

Before upgrading the firmware, download the Router's firmware upgrade file from the Linksys website, [www.linksys.com](http://www.linksys.com). Then extract the file.

**Please select a file to upgrade** Click **Browse** and select the extracted firmware upgrade file.

**Upgrade** After you have selected the appropriate file, click this button, and follow the on-screen instructions.

## Status > Router

The *Router* screen displays information about the Router and its current settings.



Status &gt; Router

## Information

**Firmware Version** This is the version number of the Router's current firmware.

**MAC Address** This is the Router's MAC address, as seen by your ISP.

## Status

**Login Type** The type of your Internet connection is displayed here.

**Internet IP Address** Your current IP address is shown here.

**Subnet Mask and Default Gateway** The Router's Subnet Mask and Default Gateway addresses are displayed here for DHCP and static IP connections.

**DNS 1-3** Shown here is the DNS (Domain Name System) IP address currently used by the Router.

**Current Time** As selected from the Setup tab, this will show the current time in your time zone.

**DHCP Renew** Click the **DHCP Renew** button to replace your Gateway's current IP address with a new IP address.

**DHCP Release** Click the **DHCP Release** button to delete your Gateway's current IP address.

Click **Refresh** to update the on-screen information.

Status > Local Network

The *Local Network* screen displays information about the local, wired network.



Status > Local Network

Local Network

**Local MAC Address** The MAC address of the Router's local, wired interface is displayed here.

**IP Address** This shows the Router's IP address, as it appears on your local network.

**Subnet Mask** This shows the subnet mask of the Router.

**DHCP Server** The status of the Router's DHCP server function is displayed here.

**DHCP Clients Table** Click this button to view a list of PCs that are using the Router as a DHCP server.



DHCP Clients Table

DHCP Client Table

The DHCP Client Table lists computers and other devices that have been assigned IP addresses by the Router. The DHCP Server IP Address is the IP address of the Router. The table lists the Client Hostname, IP Address, MAC Address, and Interface for each DHCP

client. To remove a DHCP client, select the client and click **Delete**. To retrieve the most up-to-date information, click **Refresh**.

Click **Refresh** to update the on-screen information.

## Appendix A: Troubleshooting

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### ***Your computer cannot connect to the Internet.***

Follow these instructions until your computer can connect to the Internet:

- Make sure that the Router is powered on. The Power LED should be green and not flashing.
- If the Power LED is flashing, then power off all of your network devices, including the modem, Router, and computers. Then power on each device in the following order:
  1. Cable or DSL modem
  2. Router
  3. Computer
- Check the cable connections. The computer should be connected to one of the ports numbered 1-4 on the Router, and the modem must be connected to the Internet port on the Router.

### ***The modem does not have an Ethernet port.***

The modem is a dial-up modem for traditional dial-up service. To use the Router, you need a cable/DSL modem and high-speed Internet connection.

### ***You cannot use the DSL service to connect manually to the Internet.***

After you have installed the Router, it will automatically connect to your Internet Service Provider (ISP), so you no longer need to connect manually.

### ***The DSL telephone line does not fit into the Router's Internet port.***

The Router does not replace your modem. You still need your DSL modem in order to use the Router. Connect the telephone line to the DSL modem, insert the setup CD into your computer, and then follow the on-screen instructions.

***When you double-click the web browser, you are prompted for a username and password. If you want to get rid of the prompt, follow these instructions.***

Launch the web browser and perform the following steps (these steps are specific to Internet Explorer but are similar for other browsers):

1. Select **Tools > Internet Options**.
2. Click the **Connections** tab.
3. Select **Never dial a connection**.
4. Click **OK**.

### ***The Router does not have a coaxial port for the cable connection.***

The Router does not replace your modem. You still need your cable modem in order to use the Router. Connect your cable connection to the cable modem, insert the setup CD into your computer, and then follow the on-screen instructions.

### ***You need to modify the settings on the Router.***

Open the web browser (for example, Internet Explorer or Firefox), and enter the Router's IP address in the address field (the default IP address is **192.168.1.1**). When prompted, leave the *User name* field blank and enter the password to the Router (the default is **admin**). Click the appropriate tab to change the settings.



**WEB:** If your questions are not addressed here, refer to the Linksys website, **[www.linksys.com](http://www.linksys.com)**.



# Appendix B: Specifications

Model	BEFSX41
Standards	IEEE 802.3 (10BaseT), 802.3u (100BaseTX)
Ports	One 10/100 RJ-45 Port, Four 10/100 RJ-45 Ports
Button	Reset
Cabling Type	Ethernet Category 5
LEDs	Power, DMZ, Ethernet, Internet

Environmental

Dimensions	7.32" x 1.88" x 6.06" (186 x 48 x 154 mm)
Unit Weight	13.40 oz. (380 g)
Power	External, 12V DC, 1A
Certifications	FCC, CE
Operating Temp.	32 to 104°F (0 to 40°C)
Storage Temp.	-4 to 158°F (-20 to 70°C)
Operating Humidity	10 to 85%, Noncondensing
Storage Humidity	5 to 90%, Noncondensing

Specifications are subject to change without notice.

## Appendix C: Warranty Information

### Limited Warranty

Linksys warrants this Linksys hardware product against defects in materials and workmanship under normal use for the Warranty Period, which begins on the date of purchase by the original end-user purchaser and lasts for the period specified below:

- One (1) year for new product
- Ninety (90) days for refurbished product

This limited warranty is non-transferable and extends only to the original end-user purchaser. Your exclusive remedy and Linksys' entire liability under this limited warranty will be for Linksys, at its option, to (a) repair the product with new or refurbished parts, (b) replace the product with a reasonably available equivalent new or refurbished Linksys product, or (c) refund the purchase price of the product less any rebates. Any repaired or replacement products will be warranted for the remainder of the original Warranty Period or thirty (30) days, whichever is longer. All products and parts that are replaced become the property of Linksys.

### Exclusions and Limitations

This limited warranty does not apply if: (a) the product assembly seal has been removed or damaged, (b) the product has been altered or modified, except by Linksys, (c) the product damage was caused by use with non-Linksys products, (d) the product has not been installed, operated, repaired, or maintained in accordance with instructions supplied by Linksys, (e) the product has been subjected to abnormal physical or electrical stress, misuse, negligence, or accident, (f) the serial number on the Product has been altered, defaced, or removed, or (g) the product is supplied or licensed for beta, evaluation, testing or demonstration purposes for which Linksys does not charge a purchase price or license fee.

ALL SOFTWARE PROVIDED BY LINKSYS WITH THE PRODUCT, WHETHER FACTORY LOADED ON THE PRODUCT OR CONTAINED ON MEDIA ACCOMPANYING THE PRODUCT, IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND. Without limiting the foregoing, Linksys does not warrant that the operation of the product or software will be uninterrupted or error free. Also, due to the continual development of new techniques for intruding upon and attacking networks, Linksys does not warrant that the product, software or any equipment, system or network on which the product or software is used will be free of vulnerability to intrusion or attack. The product may include or be bundled with third party software or

service offerings. This limited warranty shall not apply to such third party software or service offerings. This limited warranty does not guarantee any continued availability of a third party's service for which this product's use or operation may require.

TO THE EXTENT NOT PROHIBITED BY LAW, ALL IMPLIED WARRANTIES AND CONDITIONS OF MERCHANTABILITY, SATISFACTORY QUALITY OR FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED TO THE DURATION OF THE WARRANTY PERIOD. ALL OTHER EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS AND WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF NON-INFRINGEMENT, ARE DISCLAIMED. Some jurisdictions do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. This limited warranty gives you specific legal rights, and you may also have other rights which vary by jurisdiction.

TO THE EXTENT NOT PROHIBITED BY LAW, IN NO EVENT WILL LINKSYS BE LIABLE FOR ANY LOST DATA, REVENUE OR PROFIT, OR FOR SPECIAL, INDIRECT, CONSEQUENTIAL, INCIDENTAL OR PUNITIVE DAMAGES, REGARDLESS OF THE THEORY OF LIABILITY (INCLUDING NEGLIGENCE), ARISING OUT OF OR RELATED TO THE USE OF OR INABILITY TO USE THE PRODUCT (INCLUDING ANY SOFTWARE), EVEN IF LINKSYS HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT WILL LINKSYS' LIABILITY EXCEED THE AMOUNT PAID BY YOU FOR THE PRODUCT. The foregoing limitations will apply even if any warranty or remedy provided under this limited warranty fails of its essential purpose. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

### Obtaining Warranty Service

If you have a question about your product or experience a problem with it, please go to [www.linksys.com/support](http://www.linksys.com/support) where you will find a variety of online support tools and information to assist you with your product. If the product proves defective during the Warranty Period, contact Linksys Technical Support for instructions on how to obtain warranty service. The telephone number for Linksys Technical Support in your area can be found in the product User Guide and at [www.linksys.com](http://www.linksys.com). Have your product serial number and proof of purchase on hand when calling. A DATED PROOF OF ORIGINAL PURCHASE IS REQUIRED TO PROCESS WARRANTY CLAIMS. If you are requested to return your product, you will be given a Return Materials Authorization (RMA) number. You are responsible for properly packaging and shipping your product to Linksys at your cost and risk. You must include the RMA number and a copy of your dated proof of original purchase when returning your product. Products received without a RMA number and dated proof of original purchase will be

rejected. Do not include any other items with the product you are returning to Linksys. Defective product covered by this limited warranty will be repaired or replaced and returned to you without charge. Customers outside of the United States of America and Canada are responsible for all shipping and handling charges, custom duties, VAT and other associated taxes and charges. Repairs or replacements not covered under this limited warranty will be subject to charge at Linksys' then-current rates.

### Technical Support

This limited warranty is neither a service nor a support contract. Information about Linksys' current technical support offerings and policies (including any fees for support services) can be found at:

**[www.linksys.com/support](http://www.linksys.com/support)**.

This limited warranty is governed by the laws of the jurisdiction in which the Product was purchased by you.

Please direct all inquiries to: Linksys, P.O. Box 18558, Irvine, CA 92623.

## Appendix D: Regulatory Information

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### FCC Statement

This product has been tested and complies with the specifications for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used according to the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which is found by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment or devices
- Connect the equipment to an outlet other than the receiver's
- Consult a dealer or an experienced radio/TV technician for assistance

### Safety Notices

- Caution: To reduce the risk of fire, use only No.26 AWG or larger telecommunication line cord.
- Do not use this product near water, for example, in a wet basement or near a swimming pool.
- Avoid using this product during an electrical storm. There may be a remote risk of electric shock from lightning.



**WARNING:** This product contains lead, known to the State of California to cause cancer, and birth defects or other reproductive harm. Wash hands after handling.

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### Industry Canada Statement

This Class B digital apparatus complies with Canadian ICES-003.

Operation is subject to the following two conditions:

1. This device may not cause interference and
2. This device must accept any interference, including interference that may cause undesired operation of the device.

### Avis d'Industrie Canada

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Le fonctionnement est soumis aux conditions suivantes :

1. Ce périphérique ne doit pas causer d'interférences;
2. Ce périphérique doit accepter toutes les interférences reçues, y compris celles qui risquent d'entraîner un fonctionnement indésirable.




## User Information for Consumer Products Covered by EU Directive 2002/96/EC on Waste Electric and Electronic Equipment (WEEE)


This document contains important information for users with regards to the proper disposal and recycling of Linksys products. Consumers are required to comply with this notice for all electronic products bearing the following symbol:




### English - Environmental Information for Customers in the European Union

European Directive 2002/96/EC requires that the equipment bearing this symbol  on the product and/or its packaging must not be disposed of with unsorted municipal waste. The symbol indicates that this product should be disposed of separately from regular household waste streams. It is your responsibility to dispose of this and other electric and electronic equipment via designated collection facilities appointed by the government or local authorities. Correct disposal and recycling will help prevent potential negative consequences to the environment and human health. For more detailed information about the disposal of your old equipment, please contact your local authorities, waste disposal service, or the shop where you purchased the product.


### Български (Bulgarian) - Информация относно опазването на околната среда за потребители в Европейския съюз

Европейска директива 2002/96/EC изисква уредите, носещи този символ  върху изделието и/или опаковката му, да не се изхвърлят с несортирани битови отпадъци. Символът обозначава, че изделието трябва да се изхвърля отделно от сметосъбирането на обикновените битови отпадъци. Ваша е отговорността този и другите електрически и електронни уреди да се изхвърлят в предварително определени от държавните или общински органи специализирани пунктове за събиране. Правилното изхвърляне и рециклиране ще спомогнат да се предотвратят евентуални вредни за околната среда и здравето на населението последствия. За по-подробна информация относно изхвърлянето на вашите стари уреди се обърнете към местните власти, службите за сметосъбиране или магазина, от който сте закупили уреда.


### Čeština (Czech) - Informace o ochraně životního prostředí pro zákazníky v zemích Evropské unie

Evropská směrnice 2002/96/ES zakazuje, aby zařízení označené tímto symbolem  na produktu anebo na obalu bylo likvidováno s netříděným komunálním odpadem. Tento symbol udává, že daný produkt musí být likvidován odděleně od běžného komunálního odpadu. Odpovídáte za likvidaci tohoto produktu a dalších elektrických a elektronických zařízení prostřednictvím určených sběrných míst stanovených vládou nebo místními úřady. Správná likvidace a recyklace pomáhá předcházet potenciálním negativním dopadům na životní prostředí a lidské zdraví. Podrobnější informace o likvidaci starého vybavení si laskavě vyžádejte od místních úřadů, podniku zabývajícího se likvidací komunálních odpadů nebo obchodu, kde jste produkt zakoupili.


### Dansk (Danish) - Miljøinformation for kunder i EU

EU-direktiv 2002/96/EF kræver, at udstyr der bærer dette symbol  på produktet og/eller emballagen ikke må bortskaffes som usorteret kommunalt affald. Symbolet betyder, at dette produkt skal bortskaffes adskilt fra det almindelige husholdningsaffald. Det er dit ansvar at bortskaffe dette og andet elektrisk og elektronisk udstyr via bestemte indsamlingssteder udpeget af staten eller de lokale myndigheder. Korrekt bortskaffelse og genvinding vil hjælpe med til at undgå mulige skader for miljøet og menneskers sundhed. Kontakt venligst de lokale myndigheder, renovationstjenesten eller den butik, hvor du har købt produktet, angående mere detaljeret information om bortskaffelse af dit gamle udstyr.


### Deutsch (German) - Umweltinformation für Kunden innerhalb der Europäischen Union

Die Europäische Richtlinie 2002/96/EC verlangt, dass technische Ausrüstung, die direkt am Gerät und/oder an der Verpackung mit diesem Symbol versehen ist , nicht zusammen mit unsortiertem Gemeindeabfall entsorgt werden darf. Das Symbol weist darauf hin, dass das Produkt von regulärem Haushaltsmüll getrennt entsorgt werden sollte. Es liegt in Ihrer Verantwortung, dieses Gerät und andere elektrische und elektronische Geräte über die dafür zuständigen und von der Regierung oder örtlichen Behörden dazu bestimmten Sammelstellen zu entsorgen. Ordnungsgemäßes Entsorgen und Recyceln trägt dazu bei, potentielle negative Folgen für Umwelt und die menschliche Gesundheit zu vermeiden. Wenn Sie weitere Informationen zur Entsorgung Ihrer Altgeräte benötigen, wenden Sie sich bitte an die örtlichen Behörden oder städtischen Entsorgungsdienste oder an den Händler, bei dem Sie das Produkt erworben haben.


### Eesti (Estonian) - Keskkonnaalane informatsioon Euroopa Liidu asuvatele klientidele

Euroopa Liidu direktiivi 2002/96/EÜ nõuete kohaselt on seadmeid, millel on tootel või pakendil käesolev sümbol , keelatud kõrvaldada koos sorteerimata olmejäätmetega. See sümbol näitab, et toode tuleks kõrvaldada eraldi tavalistest olmejäätmevoogudest. Olete kohustatud kõrvaldama käesoleva ja ka muud elektri- ja elektroonikaseadmed riigi või kohalike ametiasutuste poolt ette nähtud kogumispunktide kaudu. Seadmete korrektne kõrvaldamine ja ringlussevõtt aitab vältida võimalikke negatiivseid tagajärgi keskkonnale ning inimeste tervisele. Vanade seadmete kõrvaldamise kohta täpsema informatsiooni saamiseks võtke palun ühendust kohalike ametiasutustega, jäätmeäitlusfirmaga või kauplusega, kust te toote ostsite.


### Español (Spanish) - Información medioambiental para clientes de la Unión Europea

La Directiva 2002/96/CE de la UE exige que los equipos que lleven este símbolo , en el propio aparato y/o en su embalaje no deben eliminarse junto con otros residuos urbanos no seleccionados. El símbolo indica que el producto en cuestión debe separarse de los residuos domésticos convencionales con vistas a su eliminación. Es responsabilidad suya desechar este y cualesquiera otros aparatos eléctricos y electrónicos a través de los puntos de recogida que ponen a su disposición el gobierno y las autoridades locales. Al desechar y reciclar correctamente estos aparatos estará contribuyendo a evitar posibles consecuencias negativas para el medio ambiente y la salud de las personas. Si desea obtener información más detallada sobre la eliminación segura de su aparato usado, consulte a las autoridades locales, al servicio de recogida y eliminación de residuos de su zona o pregunte en la tienda donde adquirió el producto.


### Ελληνικά (Greek) - Στοιχεία περιβαλλοντικής προστασίας για πελάτες εντός της Ευρωπαϊκής Ένωσης

Σύμφωνα με την Κοινοτική Οδηγία 2002/96/ΕΚ, ο εξοπλισμός που φέρει αυτό το σύμβολο , στο προϊόν ή/και τη συσκευασία του δεν πρέπει να απορρίπτεται μαζί με τα μη διαχωρισμένα αστικά απορρίμματα. Το σύμβολο υποδεικνύει ότι αυτό το προϊόν θα πρέπει να απορρίπτεται ξεχωριστά από τα συνήθη οικιακά απορρίμματα. Είστε υπεύθυνος για την απόρριψη του παρόντος και άλλου ηλεκτρικού και ηλεκτρονικού εξοπλισμού μέσω των καθορισμένων εγκαταστάσεων συγκέντρωσης απορριμμάτων, οι οποίες ορίζονται από το κράτος ή τις αρμόδιες τοπικές αρχές. Η σωστή απόρριψη και ανακύκλωση συμβάλλει στην πρόληψη ενδεχόμενων αρνητικών επιπτώσεων στο περιβάλλον και την υγεία. Για περισσότερες πληροφορίες σχετικά με την απόρριψη του παλαιού σας εξοπλισμού, επικοινωνήστε με τις τοπικές αρχές, τις υπηρεσίες αποκομιδής απορριμμάτων ή το κατάστημα από το οποίο αγοράσατε το προϊόν.


### Français (French) - Informations environnementales pour les clients de l'Union européenne

La directive européenne 2002/96/CE exige que l'équipement sur lequel est apposé ce symbole , sur le produit et/ou son emballage ne soit pas jeté avec les autres ordures ménagères. Ce symbole indique que le produit doit être éliminé dans un circuit distinct de celui pour les déchets des ménages. Il est de votre responsabilité de jeter ce matériel ainsi que tout autre matériel électrique ou électronique par les moyens de collecte indiqués par le gouvernement et les pouvoirs publics des collectivités territoriales. L'élimination et le recyclage en bonne et due forme ont pour but de lutter contre l'impact néfaste potentiel de ce type de produits sur l'environnement et la santé publique. Pour plus d'informations sur le mode d'élimination de votre ancien équipement, veuillez prendre contact avec les pouvoirs publics locaux, le service de traitement des déchets, ou l'endroit où vous avez acheté le produit.


### Italiano (Italian) - Informazioni relative all'ambiente per i clienti residenti nell'Unione Europea

La direttiva europea 2002/96/EC richiede che le apparecchiature contrassegnate con questo simbolo , sul prodotto e/o sull'imballaggio non siano smaltite insieme ai rifiuti urbani non differenziati. Il simbolo indica che questo prodotto non deve essere smaltito insieme ai normali rifiuti domestici. È responsabilità del proprietario smaltire sia questi prodotti sia le altre apparecchiature elettriche ed elettroniche mediante le specifiche strutture di raccolta indicate dal governo o dagli enti pubblici locali. Il corretto smaltimento ed il riciclaggio aiuteranno a prevenire conseguenze potenzialmente negative per l'ambiente e per la salute dell'essere umano. Per ricevere informazioni più dettagliate circa lo smaltimento delle vecchie apparecchiature in Vostro possesso, Vi invitiamo a contattare gli enti pubblici di competenza, il servizio di smaltimento rifiuti o il negozio nel quale avete acquistato il prodotto.


### Latviešu valoda (Latvian) - Ekoloģiska informācija klientiem Eiropas Savienības jurisdikcijā

Direktīvā 2002/96/EK ir prasība, ka aprīkojumu, kam pievienota zīme , uz paša izstrādājuma vai uz tā iesaiņojuma, nedrīkst izmest nešķīrotā veidā kopā ar komunālajiem atkritumiem (tiem, ko rada vietēji iedzīvotāji un uzņēmumi). Šī zīme nozīmē to, ka šī ierīce ir jāizmet atkritumos tā, lai tā nenonāktu kopā ar parastiem mājāsaimniecības atkritumiem. Jūsu pienākums ir šo un citas elektriskas un elektroniskas ierīces izmest atkritumos, izmantojot īpašus atkritumu savākšanas veidus un līdzekļus, ko nodrošina valsts un pašvaldību iestādes. Ja izmešana atkritumos un pārstrāde tiek veikta pareizi, tad mazinās iespējamais kaitējums dabai un cilvēku veselībai. Sīkākas ziņas par novecojuša aprīkojuma izmešanu atkritumos jūs varat saņemt vietējā pašvaldībā, atkritumu savākšanas dienestā, kā arī veikalā, kur iegādājāties šo izstrādājumu.


### Lietuvškai (Lithuanian) - Aplinkosaugos informacija, skirta Europos Sąjungos vartotojams

Europos direktyva 2002/96/EC numato, kad įrangos, kuri ir , kurios pakuotė yra pažymėta šiuo simboliu (įveskite simbolį), negalima šalinti kartu su nerūšiuotomis komunalinėmis atliekomis. Šis simbolis rodo, kad gaminį reikia šalinti atskirai nuo bendro buitinių atliekų srauto. Jūs privalote užtikrinti, kad ši ir kita elektros ar elektroninė įranga būtų šalinama per tam tikras nacionalinės ar vietinės valdžios nustatytas atliekų rinkimo sistemas. Tinkamai šalinant ir perdirbant atliekas, bus išvengta galimos žalos aplinkai ir žmonių sveikatai. Daugiau informacijos apie jūsų senos įrangos šalinimą gali pateikti vietinės valdžios institucijos, atliekų šalinimo tarnybos arba parduotuvės, kuriose įsigijote tą gaminį.


### Malti (Maltese) - Informazzjoni Ambjentali għal Kliġenti fl-Unjoni Ewropea

Id-Direttiva Ewropea 2002/96/KE titlob li t-tagħmir li jkun fih is-simbolu , fuq il-prodott u/jew fuq l-ippakkjar ma jistax jintrema ma' skart municipali li ma giex isseparat. Is-simbolu jindika li dan il-prodott għandu jintrema separatament minn ma' l-iskart domestiku regolari. Hija responsabbiltà tiegħek li tarmi dan it-tagħmir u kull tagħmir ieħor ta' l-elettriku u elettroniku permezz ta' faċilitajiet ta' għbir appuntati apposta mill-gvern jew mill-awtoritajiet lokali. Ir-rimi b'mod korrett u r-riċiklaġġ jgħin jipprevjeni konsegwenzi negattivi potenzjali għall-ambjent u għas-saħħa tal-bniedem. Għal aktar informazzjoni dettaljata dwar ir-rimi tat-tagħmir antik tiegħek, jekk jogħġbok ikkuntattja lill-awtoritajiet lokali tiegħek, is-servizzi għar-rimi ta' l-iskart, jew il-ħanut minn fejn xtrajt il-prodott.


### Magyar (Hungarian) - Környezetvédelmi információ az európai uniós vásárlók számára

A 2002/96/EC számú európai uniós irányelv megkívánja, hogy azokat a termékeket, amelyeken, és/vagy amelyek csomagolásán az alábbi címke , megjelenik, tilos a többi szelektálatlan lakossági hulladékkal együtt kidobni. A címke azt jelöli, hogy az adott termék kidobásakor a szokványos háztartási hulladékelszállítási rendszerektől elkülönített eljárást kell alkalmazni. Az Ön felelőssége, hogy ezt, és más elektromos és elektronikus berendezéseit a kormányzati vagy a helyi hatóságok által kijelölt gyűjtőredszereken keresztül számolja fel. A megfelelő hulladékfeldolgozás segít a környezetre és az emberi egészségre potenciálisan ártalmas negatív hatások megelőzésében. Ha elavult berendezéseinek felszámolásához további részletes információra van szüksége, kérjük, lépjen kapcsolatba a helyi hatóságokkal, a hulladékfeldolgozási szolgálattal, vagy azzal üzlettel, ahol a terméket vásárolta.


### Nederlands (Dutch) - Milieu-informatie voor klanten in de Europese Unie

De Europese Richtlijn 2002/96/EC schrijft voor dat apparatuur die is voorzien van dit symbool  op het product of de verpakking, niet mag worden ingezameld met niet-gescheiden huishoudelijk afval. Dit symbool geeft aan dat het product apart moet worden ingezameld. U bent zelf verantwoordelijk voor de vernietiging van deze en andere elektrische en elektronische apparatuur via de daarvoor door de landelijke of plaatselijke overheid aangewezen inzamelingskanalen. De juiste vernietiging en recycling van deze apparatuur voorkomt mogelijke negatieve gevolgen voor het milieu en de gezondheid. Voor meer informatie over het vernietigen van uw oude apparatuur neemt u contact op met de plaatselijke autoriteiten of afvalverwerkingsdienst, of met de winkel waar u het product hebt aangeschaft.


### Norsk (Norwegian) - Miljøinformasjon for kunder i EU

EU-direktiv 2002/96/EF krever at utstyr med følgende symbol  avbildet på produktet og/eller pakningen, ikke må kastes sammen med usortert avfall. Symbolet indikerer at dette produktet skal håndteres atskilt fra ordinær avfallsinnsamling for husholdningsavfall. Det er ditt ansvar å kvitte deg med dette produktet og annet elektrisk og elektronisk avfall via egne innsamlingsordninger slik myndighetene eller kommunene bestemmer. Korrekt avfallshåndtering og gjenvinning vil være med på å forhindre mulige negative konsekvenser for miljø og helse. For nærmere informasjon om håndtering av det kasserte utstyret ditt, kan du ta kontakt med kommunen, en innsamlingsstasjon for avfall eller butikken der du kjøpte produktet.


### Polski (Polish) - Informacja dla klientów w Unii Europejskiej o przepisach dotyczących ochrony środowiska

Dyrektywa Europejska 2002/96/EC wymaga, aby sprzęt oznaczony symbolem  znajdującym się na produkcie i/lub jego opakowaniu nie był wyrzucany razem z innymi niesortowanymi odpadami komunalnymi. Symbol ten wskazuje, że produkt nie powinien być usuwany razem ze zwykłymi odpadami z gospodarstw domowych. Na Państwu spoczywa obowiązek wyrzucania tego i innych urządzeń elektrycznych oraz elektronicznych w punktach odbioru wyznaczonych przez władze krajowe lub lokalne. Pozbywanie się sprzętu we właściwy sposób i jego recykling pomogą zapobiec potencjalnie negatywnym konsekwencjom dla środowiska i zdrowia ludzkiego. W celu uzyskania szczegółowych informacji o usuwaniu starego sprzętu, prosimy zwrócić się do lokalnych władz, służb oczyszczania miasta lub sklepu, w którym produkt został nabyty.


### Português (Portuguese) - Informação ambiental para clientes da União Europeia

A Directiva Europeia 2002/96/CE exige que o equipamento que exibe este símbolo  no produto e/ou na sua embalagem não seja eliminado junto com os resíduos municipais não separados. O símbolo indica que este produto deve ser eliminado separadamente dos resíduos domésticos regulares. É da sua responsabilidade eliminar este e qualquer outro equipamento eléctrico e electrónico através das instalações de recolha designadas pelas autoridades governamentais ou locais. A eliminação e reciclagem correctas ajudarão a prevenir as consequências negativas para o ambiente e para a saúde humana. Para obter informações mais detalhadas sobre a forma de eliminar o seu equipamento antigo, contacte as autoridades locais, os serviços de eliminação de resíduos ou o estabelecimento comercial onde adquiriu o produto.


### Română (Romanian) - Informații de mediu pentru clienții din Uniunea Europeană

Directiva europeană 2002/96/CE impune ca echipamentele care prezintă acest simbol  pe produs și/sau pe ambalajul acestuia să nu fie casate împreună cu gunoiul menajer municipal. Simbolul indică faptul că acest produs trebuie să fie casat separat de gunoiul menajer obișnuit. Este responsabilitatea dvs. să cașiți acest produs și alte echipamente electrice și electronice prin intermediul unităților de colectare special desemnate de guvern sau de autoritățile locale. Casarea și reciclarea corecte vor ajuta la prevenirea potențialelor consecințe negative asupra sănătății mediului și a oamenilor. Pentru mai multe informații detaliate cu privire la casarea acestui echipament vechi, contactați autoritățile locale, serviciul de salubritate sau magazinul de la care ați achiziționat produsul.


### Slovenčina (Slovak) - Informácie o ochrane životného prostredia pre zákazníkov v Európskej únii

Podľa európskej smernice 2002/96/ES zariadenie s týmto symbolom  na produkte a/alebo jeho balení nesmie byť likvidované spolu s netriedeným komunálnym odpadom. Symbol znamená, že produkt by sa mal likvidovať oddelene od bežného odpadu z domácností. Je vašou povinnosťou likvidovať toto i ostatné elektrické a elektronické zariadenia prostredníctvom špecializovaných zberných zariadení určených vládou alebo miestnymi orgánmi. Správna likvidácia a recyklácia pomôže zabrániť prípadným negatívnym dopadom na životné prostredie a zdravie ľudí. Ak máte záujem o podrobnejšie informácie o likvidácii starého zariadenia, obráťte sa, prosím, na miestne orgány, organizácie zaoberajúce sa likvidáciou odpadov alebo obchod, v ktorom ste si produkt zakúpili.


### Slovenščina (Slovene) - Okoljske informacije za stranke v Evropski uniji

Evropska direktiva 2002/96/ES prepoveduje odlaganje opreme s tem simbolom  – na izdelku in/ali na embalaži z nesortiranimi komunalnimi odpadki. Ta simbol opozarja, da je treba izdelek zavreči ločeno od preostalih gospodinjskih odpadkov. Vaša odgovornost je, da to in preostalo električno in elektronsko opremo oddate na posebna zbirališča, ki jih določijo državne ustanove ali lokalne oblasti. S pravilnim odlaganjem in recikliranjem boste preprečili morebitne škodljive vplive na okolje in zdravje ljudi. Če želite izvedeti več o odlaganju stare opreme, se obrnite na lokalne oblasti, odlagališče odpadkov ali trgovino, kjer ste izdelek kupili.

### Suomi (Finnish) - Ympäristöä koskevia tietoja EU-alueen asiakkaille

EU-direktiivi 2002/96/EY edellyttää, että jos laitteistossa on tämä symboli  itse tuotteessa ja/tai sen pakkauksessa, laitteistoa ei saa hävittää lajittelemattoman yhdyskuntajätteen mukana. Symboli merkitsee sitä, että tämä tuote on hävitettävä erillään tavallisesta kotitalousjätteestä. Sinun vastuullasi on hävittää tämä elektroniikkatuote ja muut vastaavat elektroniikkatuotteet viemällä tuote tai tuotteet viranomaisten määräämään keräyspisteeseen. Laitteiston oikea hävittäminen estää mahdolliset kielteiset vaikutukset ympäristöön ja ihmisten terveyteen. Lisätietoja vanhan laitteiston oikeasta hävitystavasta saa paikallisilta viranomaisilta, jätteenhävityspalvelusta tai siitä myymälästä, josta ostit tuotteen.

### Svenska (Swedish) - Miljöinformation för kunder i Europeiska unionen

Det europeiska direktivet 2002/96/EC kräver att utrustning med denna symbol  på produkten och/eller förpackningen inte får kastas med osorterat kommunalt avfall. Symbolen visar att denna produkt bör kastas efter att den avskiljts från vanligt hushållsavfall. Det faller på ditt ansvar att kasta denna och annan elektrisk och elektronisk utrustning på fastställda samlingsplatser utsedda av regeringen eller lokala myndigheter. Korrekt kassering och återvinning skyddar mot eventuella negativa konsekvenser för miljön och personhälsa. För mer detaljerad information om kassering av din gamla utrustning kontaktar du dina lokala myndigheter, avfallshantering eller butiken där du köpte produkten.



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